

October 2015

High School Science Family Newsletter



Curriculum News from our Classes

Living Environment

Students taking Living Environment are completing their study of the scientific method and experimental design, and will begin their study of Ecology through the month of October. Study will focus on environmental issues and resources surrounding the Riverdale neighborhood and the greater Bronx borough. Students will connect classroom study to applicable fieldwork. Two of the neighborhood issues we want to focus on most are proposed projects that may have a far greater impact on the environment than

intended – a Hudson shoreline public path in Riverdale and the paving of the Putnam Trail that cuts through Van Cortlandt park. The performance assessment will have students assume the role of an ecological expert explaining the dangers of these projects.

Chemistry

Chemistry offers students their first real chance with a rigorous and real-world scientific discipline. To help students make the transition, we've spent the last few weeks introducing them to the mathematical expectations that come with the

field. We've just begun our first unit – Matter and Atomic Theory – where we will delve into the history of the science as well as laying the foundation of understanding for the year to come. The culminating performance assessment for this unit will be an argumentative essay on the benefits or dangers of adding fluoride salts to water.

Earth Science

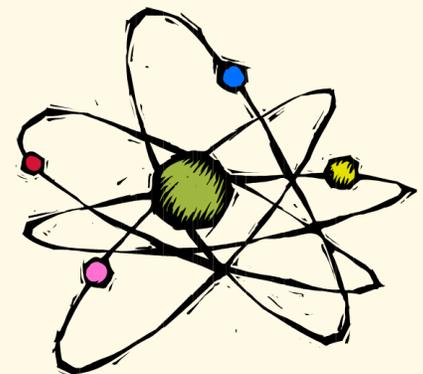
In Earth Science, students began the semester with a review of the scientific method, analyzing and making connections with collected data

IMPORTANT DATES

PSAT—Grade 11— October 14

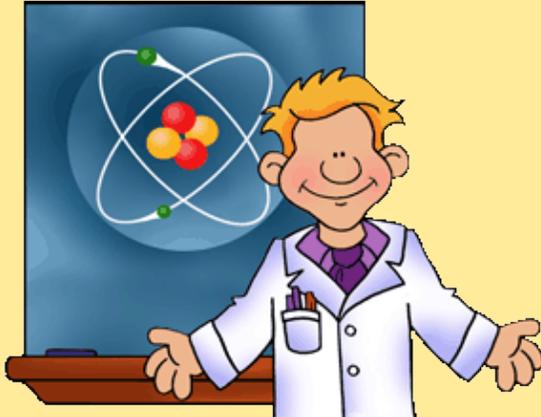
College Fair— RKA Gym— 6:30—8:00 PM October 14

End of Marking Period 1— October 16



TEACHER SPOTLIGHT

A big Tiger welcome to Mr. Spengler, the newest addition to our High School science team here at RKA. Prior to his time at RKA, Mr. Spengler was heavily involved in Biophysics Research at NJIT. When asked what he is most excited about in his new position, Mr. Spengler emphatically responded with “Showing the students as many controlled explosions as possible to celebrate science



and learning.” Further, he went on to tell us “I’m so impressed with the quality of students at RKA -- they are great. They are so focused on learning.”

Mr. Spengler will also be joining the existing Science Olympiad Faculty crew. “I can’t wait to help my team get hands-on experience with science, and to get a higher place in the standings.”

Curriculum News (continued)

and learned how to make inferences and observations in the field. These skills will become essential when our students participate in the annual “A Day in the Life of the Hudson River” event in late October. Select students from all Earth Science Classes will collect scientific information from our field site in Inwood Park, then

share this data with the class, over 50 other participating schools and scientist from Lamont Doherty Earth Observatory using Web-based technology. The purpose of this year long inquiry based study is for students to gain an understanding of the current conditions of their section

of the river, how it fits into the larger Hudson Estuary Ecosystem, and what roles they can take to become stewards of this delicate environment. As we end this introductory unit, our performance assessment will have students analyzing and interpreting real time data from the HRECOS site to explain river phenomena.

Physics

Students at RKA taking physics are hard at work decoding equations of motion used in the

Reach us any time via Jupiter Grades or via the email addresses posted @RKA141.org

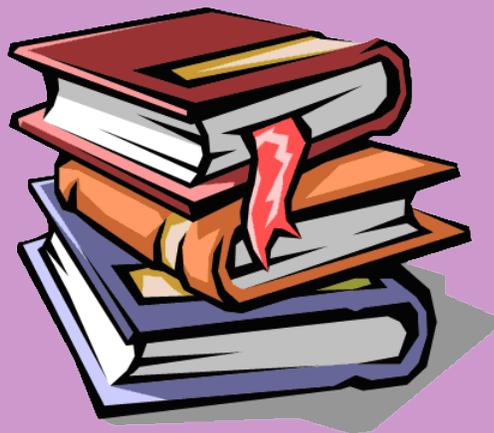
Recommended Reads

For Students:

- The Martian by Andy Weir
- The Immortal Life of Henrietta Lacks by Rebecca Skloot
- The Sixth Extinction: An Unnatural History by Elizabeth Kolbert
- Barron's Regents Review (for the applicable class)

For Parents

- <http://www.human.cornell.edu/hd/circ/publications/upload/williamsetal.pdf> (warning: May induce sleepiness -- but a very good read!)



Events Outside of RKA

- Day in the life of the Hudson River 10/20/2015
- 13th Annual College Fair at the American Museum of Natural History on Friday October 23, 2015 from 5:00-7:30 PM
- Seven Wonders of VCP: Tibbets Wetland Saturday October 24th, 2015 from 12:00 p.m. –4:00 p.m. At the Van Cortlandt Golf House (in Van Cortlandt Park)
- The New York Section of the American Chemical Society invites children K-12 and their parents to our annual National Chemistry Week Event at the New York Hall of Science in Queens, NY. This year's event will take place on Sunday, October 18, 11 a.m.-4 p.m. Over 20 exhibitors from universities and the chemical industry will present hands-on chemistry demonstrations on the theme "Chemistry Colors Our World." Last year over 1000 children and their parents attended the event. The event is free with Museum admission (Museum admission is free 10-11 a.m.). For more information, see: newyorkacs.org or nysci.org

Curriculum News (continued)

real world. We started our study of physics reviewing some of the math skills they will need to have a successful year in physics, and now we are at maximum velocity as we move through the curriculum. Very soon, we will begin looking in-depth at forces and equilibrium to lay the foundations for gravity and electromagnetism. The performance assessment for our first two units will involve students doing some research about the MTA and how it might operate more safely in the future, by using the equations of motion and force we developed in class to produce a real world model of what happens when a train hits a tight curve. You can help your young scientist at home by encouraging him or her to seek help from their physics teacher if they are having trouble with the homework or in-class assignments.

Anatomy And Physiology

In Anatomy and Physiology we've just finished our introduction to this very real and active science. Students are being exposed to all new depths of scientific knowledge in this class that requires a greater familiarity with terminology than any other class they've taken so far. In the coming weeks, we'll be delving into some basic cell biology in order to build our way up to larger body systems and interactions.

AP Biology

Students in the AP Biology course

are about to enter the world of biochemistry. As they begin to think about life processes in the body, we need to begin to build a foundation of understanding for the chemical properties and interactions that dictate the course of those life processes. Biochemistry can be a daunting topic, but we'll take it apart and make connections to some previously covered material in Living Environment. This is all to build us towards a performance assessment that will take place in Laboratory activities that will happen over the course of the month.

